

L 57008-65

ACCESSION NR: AP5011823

specimens are $0.5 (\text{gauss})^2$ and $2 (\text{gauss})^2$ higher for $\theta' = 0$ and $\theta' \leq 45^\circ$ respectively than the experimental values. The line shape and the line width of the specimen and the direction of the field. The line shape and the line width of the specimen was calculated on the assumption of a uniform distribution of internuclear vectors on the surface of a cone after the method of G. E. Pake (J. Chem. Phys. 16, 577, 1948). The experimental line shape was found to be considerably different from the calculated one, and this discrepancy is attributed in part to the neglect of W-type crystallites in the

calculation. In the calculation of ΔH^2 , of the line shape, and of the line width, most of the weight was given to the Z-type crystallites. W-type crystallites are oriented at $76^\circ 07'$ to the macroscopic crystal axis; Z-type crystallites are parallel to this axis. The calculated dependence of the line width on the angle θ' is in good agreement with experimental data. The authors thank L. G. Kasaryan for deter-

mining the x-ray picture of the specimen. Orig. art. and 7 equations.

ORIGIN: Nauchno-issledovatel'skiy institut plastmass (Scientific Research Institute of Polymers)

SUBMITTED: 12Nov65

ENCL: 00

SUB CODE: 00, NP

NO REF SOV: 005

OTHER: 008

Card 2/2/m

SLONIM, I.Ya.; LYUBIMOV, A.N.; UMAN, Ya.G.; KUDYAKOV, G.G.; YEREMIN, A.F.

Shape of nuclear magnetic resonance lines in polymers when the second derivative absorption line is recorded. Tsvetn. soed. 7 no.2:245-249 F '65. (MIRA 18:3)

1. Nauchno-issledovatel'skiy institut plastmasskikh mass.

SLONIM, I. Ya.; UIMAN, Ya.G.; YERMOYAYEV, A.D.

Nuclear magnetic resonance in trioxane. Zhur. strukt. Khim. 6
no. 4:531-539 J1-Ag '65 (MIRA 19:1)

1. Nauchno-issledovatel'skiy institut plastmass. Submitted October
28, 1964.

L 23332-66 EWT(m)/EPF(n)-2/EWP(j)/T/EWA(h)/EWA(1) GG/RM

ACC NR: AP6006979

SOURCE CODE: UR/0190/66/008/002/0251/0255

AUTHORS: Urman, Ya. G.; Slonim, I. Ya.; Yermolayev, A. D.

ORG: Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)

TITLE: Investigation of the radiation polymerization of trioxane in solid phase (4th report in the series "Nuclear magnetic resonance in oriented polymers")

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 2, 1966, 251-255

TOPIC TAGS: radiation polymerization, nuclear magnetic resonance, trioxane

ABSTRACT: Oriented radiation-induced polymerization of trioxane in solid phase has been investigated by NMR. This is an expansion of the work published earlier by Ya. G. Urman, I. Ya. Slonim, and A. D. Yermolayev (Vysokomolek. soyed., 6, 2107, 1964). The method for preparing monocrystalline trioxane and for its polymerization was described previously by I. Ya. Slonim, Ya. G. Urman, and A. D. Yermolayev (Zh. struct. khimii, 6, 531, 1965). NMR spectra were taken with a spectrometer of the Central Laboratory of Automation (Tsentral'naya laboratoriya avtomatiki) at the frequency of 20 megahertz at 40°C. Changes in the NMR spectra observed during the solid polymerization process are shown in Fig. 1. It was observed that: 1) during post-polymerization of the irradiated sample at 55°C, the shape and second moment of NMR line change sharply. The position of the sample in the field also has a significant

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UDC: 66.095.26+678.55

L 23332-66

ACC NR: AP6006979

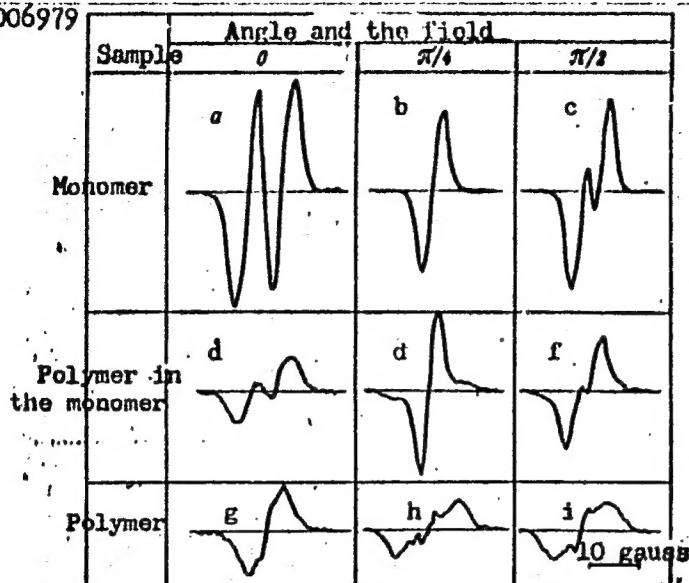


Fig. 1. Shape of NMR lines at 40C for three positions of the sample in the magnetic field: a, b, c - trioxane monocrystal; d, e, f - trioxane after irradiation and heating at 55C for 80 min; g, h, i - polyoxymethylene, washed of the residual monomer.

effect on the character of NMR: 2) agglomeration of low-molecular products occurs during polymerization, which is responsible for the appearance of a narrow component in NMR. Orig. art. has: 5 figures.

SUB CODE: 07/

SUBM DATE: 27Feb65/

ORIG REF: 010/

OTH REF: 004

Card 2/2 ULR

AUTHOR: Urman, ^VE.L., Engineer.

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TITLE: The application of the principle of the harmonic balance to investigate the conditions of synchronisation of synchronous machines. (Primeniye printsipa garmonicheskogo balansa dlya issledovaniya usloviy sinkhronizatsii mashin.)

PERIODICAL: "Vestnik Elektromyshlennosti" (Journal of the Electrical Industry) Vol. 28, No. 4, pp. 54 - 59 (U.S.S.R.) 1957

ABSTRACT: For the investigation of the conditions of synchronisation and synchronous running of synchronous machines use is usually made of methods that are based either on study of motion of the machine rotor during the transitional process or those using energy relationships that occur during the process of synchronisation. The method proposed in the present work is based on study of the conditions of establishment of steady periodic motion of the rotor and application of the principle of harmonic balance in the form proposed by Goldfarb. This principle had to be developed further before it could be used for this purpose.

Application of the principle of the harmonic balance is particularly effective for determination of the conditions of synchronisation and synchronous operation in cases when the non-linear differential equations of the process of synchronisation are of a high order. As the method can also be used for a number of other problems besides synchronisation the general case is examined of the equation of the synchronisation process. The equation is formulated and it is pointed out

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The application of the principle of the harmonic balance to investigate the conditions of synchronisation of synchronous machines (Cont).

that synchronism may be considered as one of the kinds of steady motion of the system characterised by constancy of the angle δ and the slip being zero. Two other kinds of steady motion are also possible; periodic motion of the first and second order. When the angle δ and the slip are periodic functions of time the motion is said to be of the first order, and when the angle δ increases continuously with time and the slip remains limited by a periodic time function the motion is said to be of the second order. To find the conditions of synchronisation and synchronous operation it is necessary to determine the conditions under which these periodic motions are absent. To solve this problem it is necessary to solve equations containing non-linear elements. These are plotted and graphical procedures are used to determine the conditions of oscillation for periodic motions of the second order, to determine the stability of oscillation and to determine the conditions of existence of periodic motion of the second order and the parameters of oscillation during periodic motions of the first order.

The method is compared with other published methods for the case of a synchronous machine for which the synchronisation process is described by a simplified second order

The application of the principle of the harmonic balance to³⁹⁶
investigate the conditions of synchronisation of synchronous
machines. (Cont.)

differential equation. The divergence in the results of
calculation of the critical slip by the two given methods
does not exceed 15 - 18%.

5 figures, 4 literature references (3 Russian).

AUTHOR: Urman, Ye.L. (Moscow) 103-19-6-10/13

TITLE: On the Transfer Function of a Direct Current Motor Controlled by Changing the Exciting Voltage (O peredatochnoy funktsii dvigatelya postoyannogo toka, upravlyayemogo izmeneniyem napryazheniya vozbuzhdeniya)

PERIODICAL: Avtomatika i telemekhanika, 1958, Vol 19, Nr 6, pp 609 - 613 (USSR)

ABSTRACT: A formula for the transfer function of a motor is derived here. Beside the electromechanical time constants and the time constants of the exciter-winding circuit and that of the armature circuit the effect of the series-wound exciter winding was also taken into account in this formula. The pertinent structural diagram is given. Formulae (16) to (20) are derived for the transfer functions of the elements in the structural diagram. When the voltage in the exciting circuit is assumed as the input coordinate and the angular velocity as the output coordinate, the formula (21) is obtained for the complete transfer function of the motor. The influence exerted by the series-wound exciter winding of the motor upon the stability of the system is followed in the example of a system for sta-

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On the Transfer Function of a Direct Current Motor
Controlled by Changing the Exciting Voltage

103-19-6-10/13

bilizing the frequency ω of the output voltage of the electro-
dynamic transformer (consisting of a d.c. motor and an a.c.
generator). There are 4 figures and 2 references, which
are Soviet.

SUBMITTED: April 4, 1957

1. Servo motors--Circuits

Card 2/2

166800

69945

AUTHORS: Kagan, B. M., Doctor of Technical Sciences, S/105/60/000/04/007/024
Urman, Ye. L., Candidate of Technical Sciences, B007/B008

TITLE: Selection of Differential Equations for Transients of a Synchronous Generator in Investigating the Dynamic Stability on Computers 16

PERIODICAL: Elektrichestvo, 1960, Nr 4, pp 37 - 42 (USSR)

TEXT: The results of investigations with the aid of the digital computer M-3 ²⁸ are given here. These investigations had the purpose of clarifying the influence of various factors such as saturation, attenuation system, transformer emf in the stator windings, etc. on the calculated value of the dynamic stability limit in the first oscillation cycle. The investigations were based on the method of computing the dynamic stability limit on automatic digital computers described in the paper (Ref 2). This machine searches automatically two limiting values of the angle δ , and of the power transmitted for operation before the disturbance, respectively. These two values differ, at the most, by the predetermined amount, and satisfy the condition as follows: the generator keeps its stability in the first oscillation cycle for the lower limiting value of δ while the generator falls out of step at the higher limiting value. The transmitted power corresponding to the lower limiting value of the angle δ is considered as the limit of dynamic

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Selection of Differential Equations for Transients
of a Synchronous Generator in Investigating the
Dynamic Stability on Computers

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B007/B008

stability. The fact that the computation result is marked by a figure, the dynamic stability limit, is the advantage of this method. The circuit for computing the transmission is shown in figure 1. The case of a short circuit in 3 phases with a duration of $t_{\text{short circuit}} = 0.12$ seconds in the first section behind the transformer, with following switch-off of the damaged section of one circuit, is investigated. Equations (1) to (12) - a complete system of equations by Gorev-Park - are written down for the transients of a synchronous machine. The method by Runge-Kutt (Ref 2) was used for numerical integrating on the automatic digital computer. The programs for the digital computer and the computations on the M-3 were carried out by A. P. Rozentsveyg. A comparison of the results obtained shows that at the short circuit in 3 phases near the generator the saturation of the generator exerts the highest influence on the dynamic stability of a generator feeding the rails of infinite power over a long-distance power line. It is pointed out in this connection that the statement made in the paper (Ref 3) regarding the slight influence of saturation on the character of the variation of angle δ in the first oscillation cycle, and on the dynamic stability limit to be determined after the first cycle, does not conform to the results obtained

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Selection of Differential Equations for Transients
of a Synchronous Generator in Investigating the
Dynamic Stability on Computers

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here. A comparison of the computations by the complete equations by Gorev-Park with the computations by the simplified equations which do not consider the stator emf shows that the consideration of this emf widens the limit of dynamic stability by 1.5%. The computations also showed that a consideration of the attenuation system exerts little influence on the stability limit in the case investigated here. There are 4 figures, 2 tables, and 4 Soviet references.

ASSOCIATION: VNIIE (VNIIE)

SUBMITTED: July 17, 1959

Card 3/3

KAGAN, B.M., doktor tekhn.nauk, URMAN, Ye.L., kand.tekhn.nauk

Mathematical simulation of a power transmission system containing a synchronous generator with an excitation regulator of strong action. Elektrichestvo no.8:1-9 Ag '60.

(MIRA 13'8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki.

(Electric power distribution)

KAGAN, B.M., doktor tekhn.nauk; URMAN, Ye.L., kand.tekhn.nauk

Use of digital computers for calculating transient processes
in synchronous machinery using differential equations with
periodic coefficients. Elektrichestvo no.4:43-48 Ap '61.
(MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki.
(Electronic digital computers)
(Electric machinery)

URMAN, Ye.L., kand.tekhn.nauk

Some problems in the application of calculating machines for
the automation of industrial processes. Prom.energ. 17 no.10:
1-5 0 '62. (MIRA 15:9)

(Factory management--Automation)
(Electronic calculating machines)

KAGAN, B.M., doktor tekhn. nauk; URMAN, Ye.L., kand. tekhn. nauk

Use of computers in studying electromechanical transients
in systems containing synchronous generators. Vest. Elektro-
prom. 34 no.7:20-29 J1 '63. (MIRA 16:8)

ROBINZON, Ye. A.; GRISHINA, O. N.; MUKHAMEDOVA, L. A.; URMANCHYEV, F. A.;
IZMAYLOV, R. I.; BONCHER, L. Ye.; KASHAYEV, S. Kh. G.; AMIRKHANOVA,
N. G.; GONIK, V. K.; BAYBUROVA, M. Kh.; NECHAYEVA, M. A.

Petroleum of the Tatar A. S. S. R. Izv. Kazan. fil. AN SSSR. Ser. khim.
nauk no. 4: 93-113 '57. (MIRA 12:5)
(Tatar A. S. S. R. --- Petroleum)

FORMAN, HEYER, F.A.

62-58-3-11/30

AUTHORS: Urmancheyev, F. A. , Robinson, Ye. A. , Kashayev, Kh. G. ,
Le, B.

TITLE: Determination of the Individual Hydrocarbon Composition of
the Gasolines From the Petroleum of Tatarstan. (Opredeleniye
individual'nogo uglevodorodnogo sostava benzinov neftey Tatarii)
Communication 2. Gasoline From the Oil of the Romashkinskoye
Deposit (Minnibayevskaya Area) (Soobshcheniye 2. Benzin iz nefti
Romashkinskogo mestorozhdeniya (Minnibayevskaya ploshchad'))

PERIODICAL: Izvestiya Akademii Nauk SSSR Otdeleniye Khimicheskikh Nauk,
1958, Nr 3, pp. 324 - 327 (USSR)

ABSTRACT: In the present paper the authors deal with the individual
hydrocarbon composition of the gasolines (boiling point
150°C) of the Bavlinskaya and Romashkinskaya petroleum. They
discuss the results of the investigation of benzine of the
mineral oil of Minnebayevo. This investigation was performed
according to a combined method which was further developed
by Kazanskiy and Landsberg. The gasoline from Minnibayevskaya

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62-58-3-11/30

Determination of the Individual Hydrocarbon Composition of the Gasolines
From the Petroleum of Tatarstan.. Communication 2. Gasoline From the Oil of
the Romashkinskoye Deposit (Mannibayevskaya Area)

petroleum is similar to those from Bavlinskaya and Romashkinskaya petroleum.
The gasolines from the Tuymazy oil are also similar
to it. See the comparative tables 1 and 2. The gasolines of
the petroleum wells of Tatarstan are inferior to those of
Tuymazy, especially as regards the n.hexane- and n.heptane-
-content as well as the content of methylcyclopentane. For
this see table 3. There are 3 tables and 4 references, 3 of
which are Soviet.

ASSOCIATION: Khimicheskiy institut imeni A. Ye. Arbuzova Kazanskogo filiala
AN SSSR
(Chemical Institute imeni A. Ye. Arbuzova of the Kazan
Branch, AS USSR)

SUBMITTED: November 14, 1956

Card 2/2

LE, B.; IZMAYLOV, R.I.; URMANCHEYEV, F.A.; LIPATOVA, I.P.

Determination of the individual hydrocarbon composition of Tatar
petroleums. Report No. 4: Ligroine obtained from Romashkino
Deposit crudes. Izv. AN SSSR. Otd. khim. nauk no. 1:109-114
Ja '61. (MIRA 14:2)

1. Khimicheskiy institut im. A.Ye. Arbuzova Kazanskogo filiala
AN SSSR.

(Ligroine)

LE, B.; IZMAYLOV, R.I.; URMANCHEYEV, F.A.; LIPATOVA, I.P.; KHASHAYEV,
S.-Kh.G.; LAMANOVA, I.A.; BUKHARAYEVA, R.G.

Individual hydrocarbon composition of the petroleums of Tataria.
Report No.5: Ligroine from the petroleum of the Bavly Oil Field.
Izv. AN SSSR. Otd.khim.nauk no.7:1310-1315 J1 '61. (MIRA 14:7)

1. Khimicheskiy institut im. A.Ye. Arbuzova Kazanskogo filiala
AN SSSR.

(Bavly region--Petroleum) (Ligroine)

LE, B.; URMANCHEYEV, F.A.; LIPATOVA, I.P.; BUKHARAYEVA, R.G.; LAMANOVA, I.A.

Determination of the individual hydrocarbon composition of oils
of the Tatar A.S.S.R.. Report No.6: Ligroin obtained from
petroleum of the Shugurovo oil field. Izv.AN SSSR.Otd.khim.
nauk no.10:1858-1863 0 '61. (MIRA 14:10)

1. Kazanskiy institut organicheskoy khimii AN SSSR.
(Shugurovo--Petroleum--Analysis) (Ligroin)

URMANCHEYEV, F.A.; LE, B.; BUKHARAYEVA, R.G.; LAMANOVA, I.A.; LIFATOVA, I.P.

Determination of the individual hydrocarbon composition of gasolines in oils of the Tatar A.S.S.R. Report No.7: Gasoline from Shugurovo oil fields. Izv.AN SSSR.Otd.khim.nauk no.11:2063-2065 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii AN SSSR, Kazan'.
(Shugurovo--Gasoline)

LE, B.; URMANCHEYEV, F.A.

Certain regularities in the distribution of the individual hydro-
carbon composition of ligroine of Tatar A.S.S.R. crudes. Khim.i
tekh.topl.i masel 7 no.5:37-42 My '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN SSSR, Kazanskiy filial.
(Tatar A.S.S.R.—Petroleum) (Ligroine)

S/048/63/027/001/035/043
B125/B102

AUTHORS: Le, B., and Urmancheyev, F. A.

TITLE: Spectral study of the individual carbon content of the ligroins of the mineral oils of Tatar

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 1, 1963, 102 - 104

TEXT: A combined method was used to study some characteristic features of the hydrocarbon distribution in the ligroins of the Tatar deposits Romashkino (C_I^{1Kis}), Shugurovo (C_I^{1Kis}), Al'met'yevsk (D_O , D_{III}), Bavly (D_{III}).

The distribution of the hydrocarbons in the benzines of the same deposits has already been studied by B. Le (Izv. AN SSSR. Ser. fiz., 23, 1174 (1959)). The content of ordinary paraffins, and the total proportion of cyclopentane paraffin, are found to be distributed among geologic in accordance with established rules. n-decane, n-undecane and the naphthene p-paraffin hydrocarbons are found the least frequently in ligroin from the C_I^{1Kis} mineral oil and the most frequently in ligroin D_{III} . The n-nonane content decreases
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Spectral study of the ...

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B125/B102

from the higher to the lower beds. The content of naphthene-paraffin hydrocarbons is the higher the less sulfur is contained in the mineral oil. All kinds of mineral oils contain all isomers of the alkyl benzenes except isopropyl benzene. The relative sums of the methyl ethyl benzenes and the trimethyl benzenes in the ligroins from the Romashkino, Bavly, and Shugurovo correspond approximately to the equilibrium conditions at 455°. The ratio between the n-propyl cyclohexane content and the isopropylcyclohexane content is ~3:1 in all beds. There are 1 figure and 4 tables.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences USSR)

Card 2/2

LE, B.; ~~URMANCHEYEV, F.A.~~; BARANENKO, S.Ye.; NOVIKOVA, Ye.F.; BUKHARAYEVA, R.G.;
LAMANOVA, I.A.; KURZHUNOVA, Z.Z.

Determination of the individual hydrocarbon composition of gas +
condensate fields of the Ukrainian SSR. Report No.1: Averaged gas-
condensate of the Shebelinka field. Izv. AN SSSR Ser.khim. no.10:
1809-1816 0 '63. (MIRA 17:3)

1. Institut organicheskoy khimii AN SSSR, Kazan' i Vsesoyuznyy
nauchno-issledovatel'skiy institut gaza, Khar'kov.

L 16933-65 EWT(m)/EPF(c)/T Pr-4 WE.

ACCESSION NR: AP5002835

S/0062/64/000/008/1184/1188

AUTHOR: Le, B.; Urmancheyev, F. A.; Lipatova, I. P.; Bukharayeva, R. G.;
Lomachenko, A. A.

TITLE: Determination of individual hydrocarbon composition of petroleum of Tataria.
Report 8. Lignoïn of Romashkinskiy deposit (Al'met'yevskaya area petroleum)

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1961, 1184-1188

TOPIC TAGS: crude petroleum, hydrocarbon

Abstract: The individual and group composition of Lignoïn (150-200°) of petroleum from the Romashkinskiy Deposit, Al'met'yevskaya Area, was investigated. 46 aromatic and hydroaromatic hydrocarbons were found. The 146-205° fraction ($n_D^{20} = 1.4362$, $d_4^{20} = 0.8777$, sulfur content 0.10%) was separated by 8.1% petroleum ether. The residue was separated into two fractions A₁ (14-15%, $n_D^{20} = 1.4980$, $d_4^{20} = 0.8747$). A catalysate was obtained from NPCh-1 (type 1) 88.7%; $n_D^{20} = 1.4530$, $d_4^{20} = 0.8707$, comprised of 86% naphthane-paraffin portion NPCh-2 and 11.7% aromatic hydrocarbons A₂ (8.7% of lignoïn and 9.1% in recalculation to converted six-member cyclanes). It was found that the

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ACCESSION NR: AP5002835

ligroin contains 36.6% paraffin and 17.6% pentamethylene hydrocarbons. About 30% of the naphthene-paraffin portion constitutes fractions II, VIII, and XII, which are chiefly paraffin hydrocarbons of normal structure (normal nonane, normal decane, and normal undecane). Orig. art. has 5 tables.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR, Kazan' (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 17Dec62

ENCL: 00

SUB CODE: FP

NO REF NO: 008

OTHER: 002

CPRS

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End
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